Axial Capacity of Piles in Intermediate Geomaterials (IGM)

Meeting Minutes for 2nd Quarter 2007 Progress Tele-Conference

Date: August 6, 2007
Time: 08:00-09:30 MST
Participants: MDT: Brain Collins, Cameron Kloberdanz, Fred Beal
MSU: Heather Brooks, Eli Cuelho, Bob Mokwa
Notes by: Bob Mokwa

Minutes

1) An overview was provided by MSU of the primary work tasks to date. These included: 1) literature review, 2) collection and organization of MDT project files, and 3) analyses.
2) The majority of relevant literature uncovered to date addresses drilled shafts in IGMs or specific case studies that do not provide much general information that would be considered useful for this study. MSU will continue to search for additional relevant published studies and will query other professional contacts.
3) Cameron and Brian have been busy collecting the additional data that was requested during the previous teleconference. The requested information includes: PDA report for Swan River (4228), Vicinity of White Coyote Road (1744), Medicine Tree (Q744), and Goat Creek (4226). Cameron has already sent the MSU team some of the data that was available in electronic form. He plans to send the hard copy material in the near future.
4) The internal analytical model used by the CAPWAP consultant (SK Geotechnical) was discussed. MSU posed the possibility of analyzing some of the projects using the radiation damping option to determine if this would change the results substantially. Cameron will forward this request to SK Geotechnical to determine if they could run the radiation damping model on the previously collected data, for one or two projects. Bob said it would be fine if Cameron shared some of the preliminary data plots with SK Geotechnical.
5) Three sets of plots were discussed during the meeting, as presented in the agnda. The plots were organize based on the method used to normalize the data, as follows:
    - A-series: Values from CAPWAP normalized by pile size and/or length.
    - B-series: Values from CAPWAP normalized by IGM strength and pile size.
    - C-series: Normalized comparisons using side friction resistance values from DRIVEN shaft capacity match.
6) The choice of strength parameters used in the normalized plots for the gravel and silty gravel IGMs was discussed. MSU will move data for these materials into separate plots and normalize or plot the data in terms of the friction angle or SPT N-value.
7) The A-series plots showed some vague possible trends. Although, there was considerable scatter in the data for all of the normalized plots. It was decided that at this time, the most promising plot was probably shown in Figure A3, which compared the shaft resistance (normalized by the pile perimeter) to length in IGM. MSU will further refine the A-series plots by noting the project of origin for each data point and by removing the gravel data points from any of the plots that utilize unconfined compression values.
8) In the future, MSU will include a legend that clearly defines the symbols used in the plots.

9) MSU will continue synthesizing and analyzing the data and will explore different approaches for manipulating the input data to achieve improved matches to CAPWAP results. Results of the effort will be presented and discussed at the next meeting.

10) The meeting participants agreed that a conference call for the 3rd quarter of 2007 would be more useful to the project than a written quarterly report because of the iterative approach that is ongoing with the analysis of data. Bob will contact Sue Sillick to further explore the format for the next quarter's progress report, and if applicable, setup a telecom date for sometime in October.

11) A financial summary of the project budget through the 2nd Quarter of 2007 is provided in Table 1.

12) A timeline progress schedule is provided in Figure 1.

TABLE 1. Budget Summary through June 2007

Budget Category	Budgeted Funds	Spent Quarters 1-2	Total Spent	Total Remaining
Salaries	$15,039.00	$0.00	$411.88	$14,627.12
Benefits	$4,525.00	$0.00	$137.12	$4,387.88
In-State Travel	$300.00	$0.00	$400.07	($100.07)
Out-of-State Travel	$0.00	$0.00	$0.00	$0.00
Expendable Supplies	$50.00	$0.00	$0.00	$50.00
Tuition	$0.00	$0.00	$0.00	$0.00
Subcontracts	$0.00	$0.00	$0.00	$0.00
MDT Direct Costs	$19,914.00	$0.00	$949.07	$18,964.93
Overhead	$3,983.00	$0.00	$189.83	$3,793.17
MDT Share	$23,897.00	$0.00	$1,138.90	$22,758.10
WTI/MSU Share	$16,144.00	$6,822.02	$16,144.00	$0.00
Total	$40,041.00	$4,038.77	$17,282.90	$22,758.10

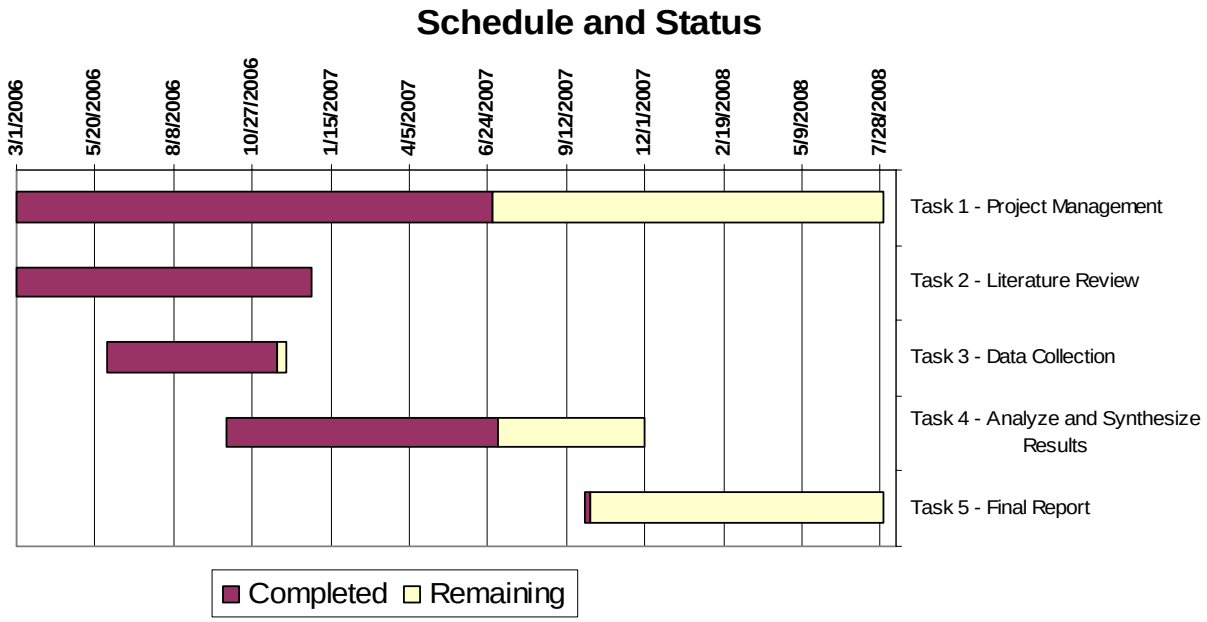

FIGURE 1. Project schedule summary through June 2007.